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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Nurettin Burcak Beser

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EXAMINER

CHO, HONG SOL

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/032,622	BESER, NURETTIN BURCAK	
	Examiner	Art Unit	
	Hong Cho	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 1, 3-5, 11, 13-15, 19, 21-23, 29, and 31-33 are objected to because of the following informalities:

Re claims 1, 3-5, 11, 13-15, 19, 21-23, 29, and 31-33, it is not clear what the “transmission area means in “segregating a transmission area reserved for said virtual upstreams”.

Claim Rejections - 35 USC § 112, First paragraph

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3-5, 13-15, 21-23, and 31-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Re claims 3, 13, 21, and 31, it recites "said transmission area is segregated by subdividing said transmission area into a transmission sub-area for each virtual upstream channel". The original specification fails to describe the above claim limitation.

Claim Rejections - 35 USC § 112 Second paragraph

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claims 1, 11, 19, and 29, it recites the limitation "said virtual upstreams". There is insufficient antecedent basis for this limitation in the claim.

Re claims 6, 16, 24, and 34, it recites the limitation "said physical upstream channel". There is insufficient antecedent basis for this limitation in the claim.

Re claims 9, 11, 27, 29, and 34, it recites the limitation "said requests". There is insufficient antecedent basis for this limitation in the claim.

Re claims 19, 20, 24, 25, 30, 34, and 35, it recites the limitation "said cable modems". There is insufficient antecedent basis for this limitation in the claim.

Re claims 26 and 29, it recites the limitation "said system". There is insufficient antecedent basis for this limitation in the claim.

Re claims 28 and 36, it recites the limitation "said virtual upstream channels".

There is insufficient antecedent basis for this limitation in the claim.

Claims 2-10, 12-18, 20-28, and 30-36 are rejected because they depend on claims 1, 11, 19, and 29.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-9, 11-17, 19-27, and 29-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Williams et al (USPUB 20020159513), hereinafter referred to as Williams.

Re claims 1, 6, 7, 19, 24, and 25, Williams discloses scheduling cable modems using a plurality of time slots in a single upstream channel (*scheduling cable modems using virtual upstream channels in a broadband communications system*, paragraph [0006], lines 1-6) by assigning the channels and sub-channels for each of modems in the timeslots to provide higher system bandwidth utilization (*segregating a transmission area reserved for said virtual upstreams to provide optimal utilization of said physical upstream channel by said cable modems*, paragraph [0006], lines 7-10, paragraph [0007])

and allocating a plurality of sub-channels and time slots in response to the amount of bandwidth requested by the modem (*enabling each of said cable modems to transmit data to provide latency differentiation among said cable modems and in accordance with said segregation, paragraphs [0008] and [0009]*).

Re claims 2, 3, 20, and 21, Williams discloses two modems transmitting at timeslot 502 in a separate 3.2MHz sub-channel (*segregating said transmission area by subdividing said transmission area into a transmission sub-area for each virtual upstream channel, the cable modems belonging to a virtual upstream channel enabled to transmit only in its corresponding transmission sub-area, paragraph [0035]*).

Re claims 4, 5, 22, and 23, Williams discloses transmission sub-area occupying a contiguous portion of a transmission area or being distributed and not contiguous over said transmission area (paragraph [0036], lines 11-20).

Re claims 8 and 26, Williams discloses a CMTS receiving a plurality of data transfer requests from a plurality of modems (paragraph [0038], lines 3-10).

Re claims 9 and 27, Williams discloses categorizing modem requests (*converting request messages to a unified form, figure 8, element 804*) and determining available bandwidth and assign sub-channels and timeslots (*scheduling requests in their unified form in accordance with a second set of constraints, figure 8, elements 806, 808, and 810*).

Re claims 11, 16, 17, 29, 34, and 35, Williams discloses scheduling cable modems using a plurality of time slots in a single upstream channel (*scheduling cable modems using virtual upstream channels in a broadband communications system,*

paragraph [0006], lines 1-6) by assigning the channels and sub-channels for each of modems in the timeslots to provide higher system bandwidth utilization (*segregating a transmission area reserved for said virtual upstreams to provide optimal utilization of said physical upstream channel by said cable modems*, paragraph [0006], lines 7-10, paragraph [0007]) and allocating a plurality of sub-channels and time slots in response to the amount of bandwidth requested by the modem (*enabling each of said cable modems to transmit data to provide latency differentiation among said cable modems and in accordance with said segregation*, paragraphs [0008] and [0009]). Williams discloses a CMTS receiving a plurality of data transfer requests from a plurality of modems (paragraph [0038], lines 3-10). Williams discloses categorizing modem requests (*converting request messages to a unified form*, figure 8, element 804) and determining available bandwidth and assign sub-channels and timeslots (*scheduling requests in their unified form in accordance with a second set of constraints*, figure 8, elements 806, 808, and 810).

Re claims 12, 13, 30, and 31, Williams discloses two modems transmitting at timeslot 502 in a separate 3.2MHz sub-channel (*segregating said transmission area by subdividing said transmission area into a transmission sub-area for each virtual upstream channel, the cable modems belonging to a virtual upstream channel enabled to transmit only in its corresponding transmission sub-area*, paragraph [0035]).

Re claims 14, 15, 32, and 33, Williams discloses transmission sub-area occupying a contiguous portion of a transmission area or being distributed and not contiguous over said transmission area (paragraph [0036], lines 11-20).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 10, 18, 28, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Ruszczyk et al (U.S 5960000), hereinafter referred to as Ruszczyk.

Re claims 10, 18, 28, and 36, Williams discloses all of the limitations of the base claim, but fails to teach synchronizing information elements in MAP messages among all virtual upstream channels. Ruszczyk discloses the headend unit providing MAC user with synchronization information so that all MAC users are synchronized to the slots on the channel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Williams to have information elements synchronized since the use of mini-slots implies strict timing synchronization between the CMTS and all the CMs. Hence, the CMTS is responsible for generating the time reference to identify these mini-slots and periodically allow for ranging opportunities so that all CMs maintain their synchronization.

Art Unit: 2662

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent (6643295) to Nose
- US Patent (6940874) to Ruszczyk et al
- US Patent (6370153) to Eng


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087.

The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3088.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

hc
Hong Cho
Patent Examiner
9/15/2005


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